

IN THIS ISSUE

ISSN 2041-6539 CODEN CSHCBM 15(10) 3395–3770 (2024)



Cover
See Wenbiao Zhang, Qingsheng Gao *et al.*, pp. 3446–3452. Image reproduced by permission of Qingsheng Gao from *Chem. Sci.*, 2024, **15**, 3446.



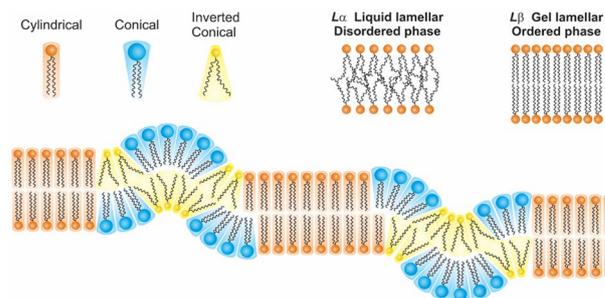
Inside cover
See Paul M. Donaldson *et al.*, pp. 3453–3465. Image reproduced by permission of Helen Towrie, Paul Donaldson and STFC from *Chem. Sci.*, 2024, **15**, 3453.

PERSPECTIVES

3408

The intricate link between membrane lipid structure and composition and membrane structural properties in bacterial membranes

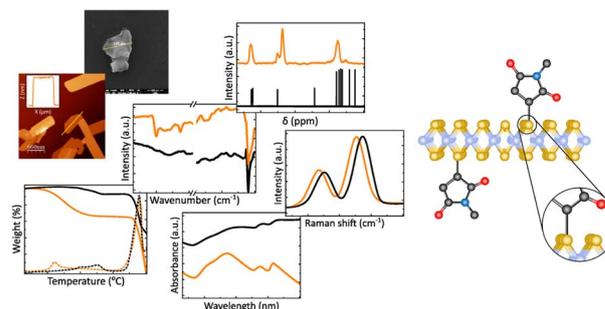
Tzong-Hsien Lee, Patrick Charchar, Frances Separovic, Gavin E. Reid, Irene Yarovsky and Marie-Isabel Aguilar*



3428

Characterization of emerging 2D materials after chemical functionalization

Marina Garrido, Alicia Naranjo and Emilio M. Pérez*



RSC Advances

At the heart of open access for
the global chemistry community

Editor-in-chief

Russell J Cox

Leibniz Universität Hannover, Germany

We stand for:



Breadth We publish work in all areas of chemistry and reach a global readership



Quality Research to advance the chemical sciences undergoes rigorous peer review for a trusted, society-run journal



Affordability Low APCs, discounts and waivers make publishing open access achievable and sustainable



Community Led by active researchers, we publish quality work from scientists at every career stage, and all countries

Submit your work now

rsc.li/rsc-advances

@RSC_Adv

3446

Synergistic enhancement of electrocatalytic nitroarene hydrogenation over $\text{Mo}_2\text{C}@\text{MoS}_2$ heteronanorods with dual active-sites

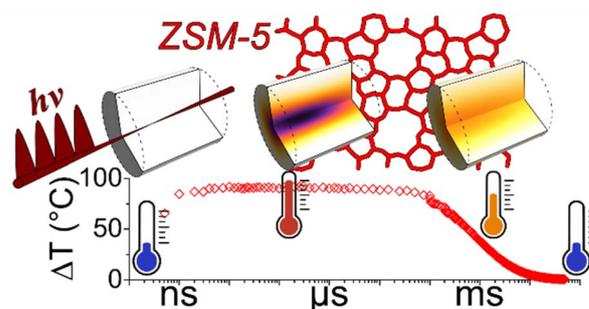
Wanling Zhang, Wenbiao Zhang,* Kun Yu, Jingwen Tan, Yi Tang and Qingsheng Gao*



3453

Laser induced temperature-jump time resolved IR spectroscopy of zeolites

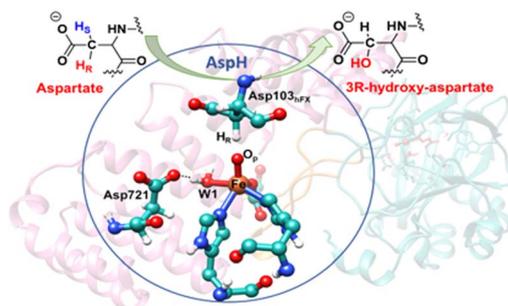
Alexander P. Hawkins, Amy E. Edmeades, Christopher D. M. Hutchison, Michael Towrie, Russell F. Howe, Gregory M. Greetham and Paul M. Donaldson*



3466

Unusual catalytic strategy by non-heme Fe(II)/2-oxoglutarate-dependent aspartyl hydroxylase AspH

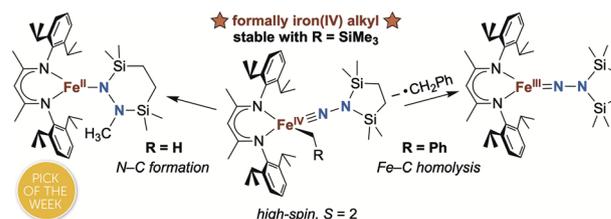
Anandhu Krishnan, Sodiq O. Waheed, Ann Varghese, Fathima Hameed Cherilakkudy, Christopher J. Schofield and Tatyana G. Karabencheva-Christova*



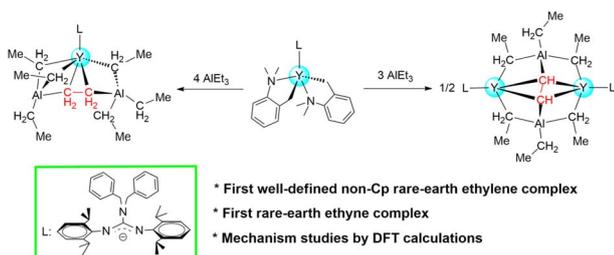
3485

Iron(IV) alkyl complexes: electronic structure contributions to Fe–C bond homolysis and migration reactions that form N–C bonds from N_2

Samuel M. Bhutto, Reagan X. Hooper, Sean F. McWilliams, Brandon Q. Mercado and Patrick L. Holland*



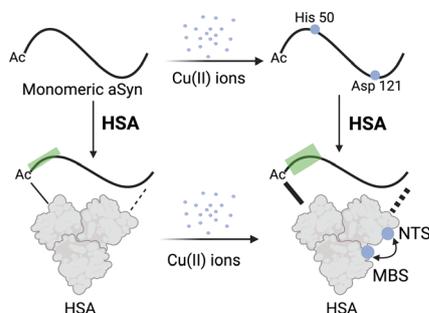
3495



Rare-earth metal ethylene and ethyne complexes

Wen Jiang, Thayalan Rajeshkumar, Mengyue Guo, Yuejian Lin, Laurent Maron* and Lixin Zhang*

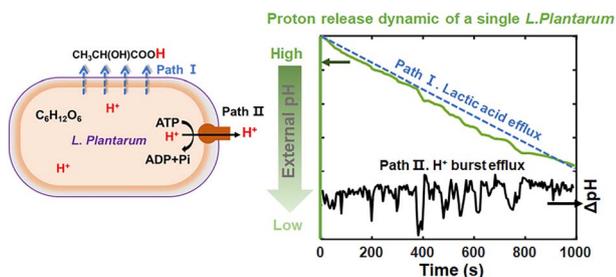
3502



Inhibition of toxic metal-alpha synuclein interactions by human serum albumin

Karla Martinez Pomier, Rashik Ahmed, Jinfeng Huang and Giuseppe Melacini*

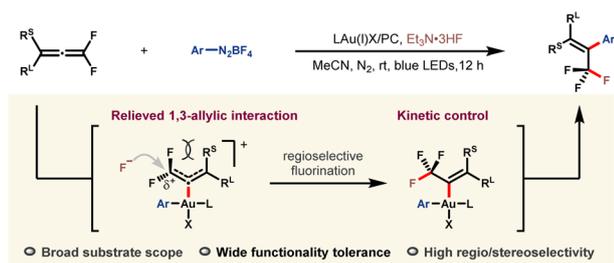
3516



Intermittent proton bursts of single lactic acid bacteria

Jia Gao, Kai Zhou, Haoran Li, Yaohua Li, Kairong Yang and Wei Wang*

3524



Multi-substituted trifluoromethyl alkene construction via gold-catalyzed fluor arylation of gem-difluoroalkenes

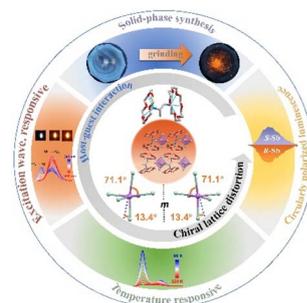
Zhi-Qiang Li, Hai-Jun Tang, Zaixin Wang, Cheng-Qiang Wang* and Chao Feng*



3530

Multi-stimuli-responsive luminescence enabled by crown ether anchored chiral antimony halide phosphors

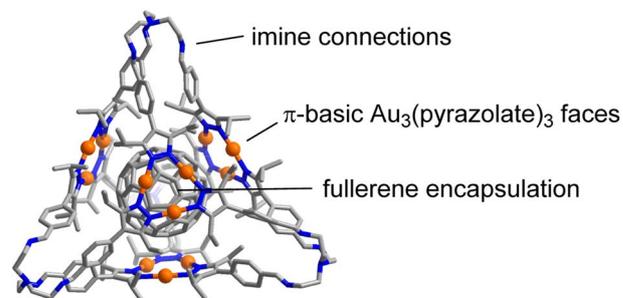
Xiao Han, Puxin Cheng, Shanshan Han, Zhihua Wang, Junjie Guan, Wenging Han, Rongchao Shi, Songhua Chen, Yongshen Zheng,* Jialiang Xu* and Xian-He Bu



3539

Molecular imine cages with π -basic $\text{Au}_3(\text{pyrazolate})_3$ faces

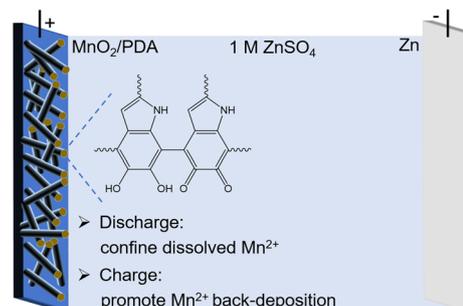
Noga Eren, Farzaneh Fadaei-Tirani, Rosario Scopelliti and Kay Severin*



3545

A polydopamine coating enabling the stable cycling of MnO_2 cathode materials in aqueous zinc batteries

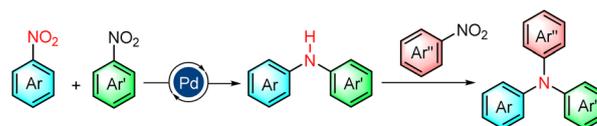
Guoli Zhang, Jiaqi Zhu, Lu Lin, Yaozhi Liu, Shuo Li, Qianrui Li, Xiao-Xia Liu* and Xiaoqi Sun*



3552

Dual role of nitroarenes as electrophiles and arylamine surrogates in Buchwald–Hartwig-type coupling for C–N bond construction

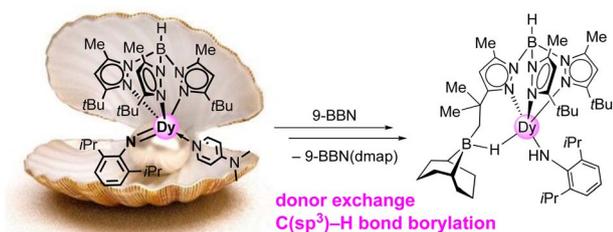
Zhiguo Lei, Jiixin Yao, Yuxuan Xiao, Wenbo H. Liu, Lin Yu,* Wengui Duan* and Chao-Jun Li*



- cheap chemical feedstocks
- high-value products
- switchable chemoselectivity
- streamlined synthetic route
- high step- and atom-economy
- halides and metal reductant-free



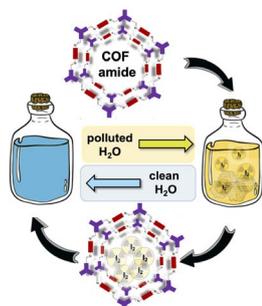
3562



Terminal dysprosium and holmium organoimides

Theresa E. Rieser, Dorothea Schädle,
Cécilia Maichle-Mössmer and Reiner Anwander*

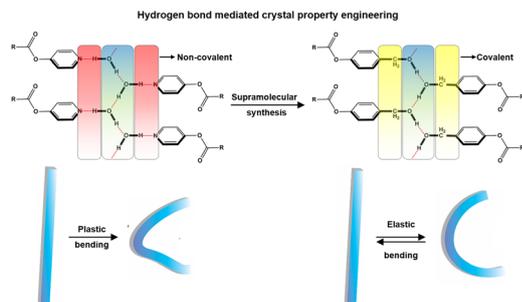
3571



Rapid, high-capacity adsorption of iodine from aqueous environments with amide functionalized covalent organic frameworks

Niyati Arora, Tanay Debnath, Milinda C. Senarathna,
Rebecca M. Johnson, Isabella G. Roske,
G. Andrés Cisneros* and Ronald A. Smaldone*

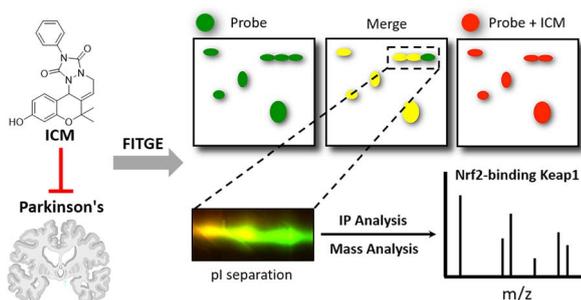
3578



Crystal property engineering using molecular-supramolecular equivalence: mechanical property alteration in hydrogen bonded systems

Saikat Mondal, C Malla Reddy* and Subhankar Saha*

3588



Inflachromene ameliorates Parkinson's disease by targeting Nrf2-binding Keap1

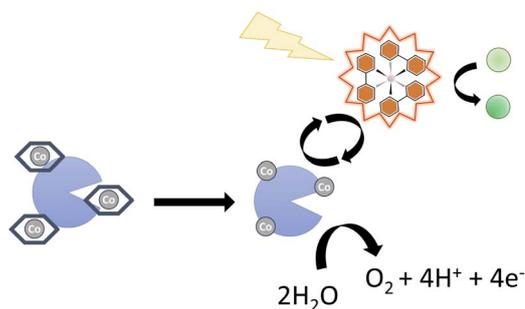
Junhyeong Yim, Yoon Soo Hwang, Jae-Jin Lee,
Ju Hee Kim, Jeong Yeob Baek, Jaeyeong Jeong,
Young Il Choi, Byung Kwan Jin and Seung Bum Park*



3596

An artificial metalloenzyme that can oxidize water photocatalytically: design, synthesis, and characterization

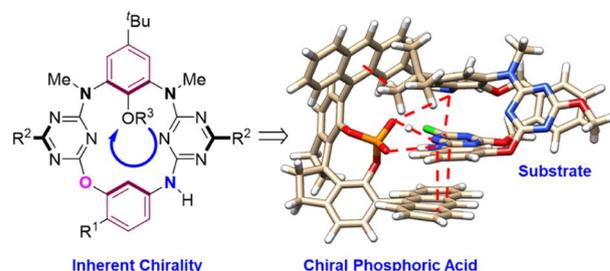
Ehider A. Polanco, Laura V. Opdam, Leonardo Passerini, Martina Huber, Sylvestre Bonnet* and Anjali Pandit*



3610

De novo synthesis of inherently chiral heteracalix[4] aromatics from enantioselective macrocyclization enabled by chiral phosphoric acid-catalyzed intramolecular S_NAr reaction

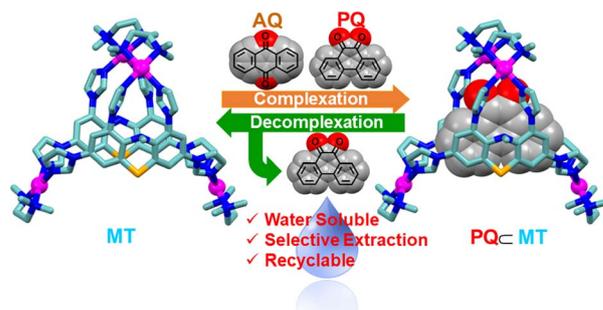
Xing-Chi Li, Ying Cheng,* Xu-Dong Wang, Shuo Tong* and Mei-Xiang Wang*



3616

A water-soluble Pd_4 molecular tweezer for selective encapsulation of isomeric quinones and their recyclable extraction

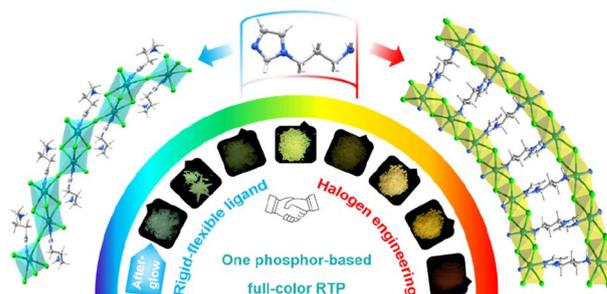
Dharmraj Prajapati, Pallab Bhandari, Ennio Zangrando and Partha Sarathi Mukherjee*



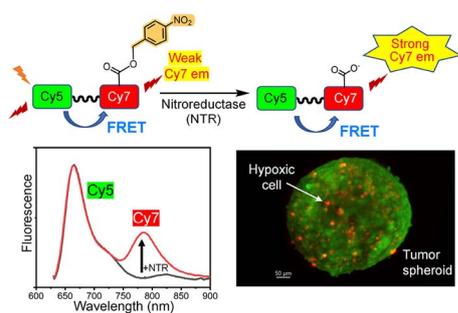
3625

A flexible ligand and halogen engineering enable one phosphor-based full-color persistent luminescence in hybrid perovskitoids

Guowei Xiao, Yu-Juan Ma, Zhenhong Qi, Xiaoyu Fang, Tianhong Chen and Dongpeng Yan*



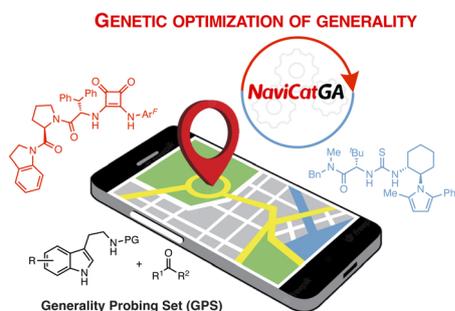
3633



Ratiometric near-infrared fluorescent probe for nitroreductase activity enables 3D imaging of hypoxic cells within intact tumor spheroids

Janeala J. Morsby, Zhumin Zhang, Alice Burchett, Meenal Datta* and Bradley D. Smith*

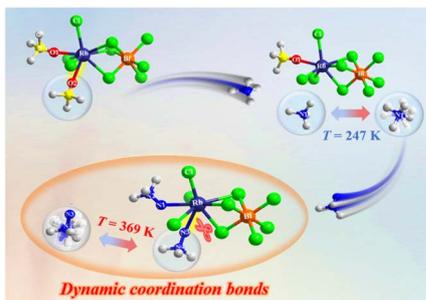
3640



A genetic optimization strategy with generality in asymmetric organocatalysis as a primary target

Simone Gallarati, Puck van Gerwen, Ruben Laplaza, Lucien Brey, Alexander Makaveev and Clemence Corminboeuf*

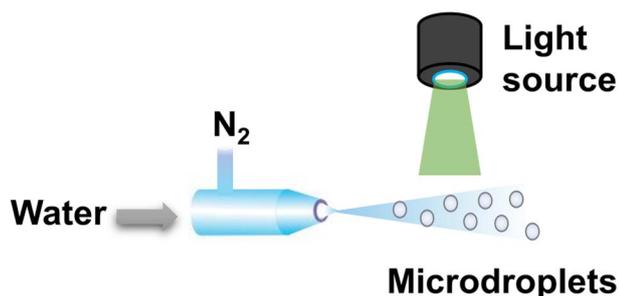
3661



Designing dynamic coordination bonds in polar hybrid crystals for a high-temperature ferroelastic transition

Yao-Bin Li, Xiao-Xian Chen, Wei-Jian Xu, Ya-Ping Gong, Hui Ye, Zhi-Shuo Wang and Wei-Xiong Zhang*

3670



The power of microdroplet photochemistry

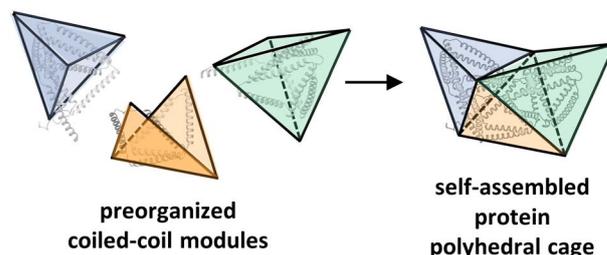
Xiaowei Song and Richard N. Zare*



3673

Preorganized cyclic modules facilitate the self-assembly of protein nanostructures

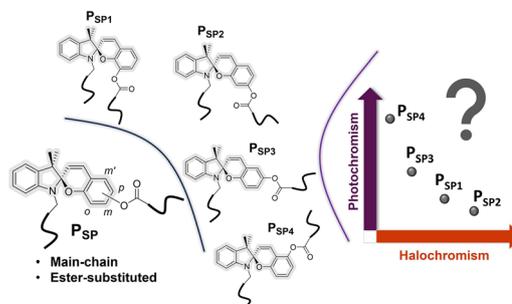
Jaka Snoj, Fabio Lapenta and Roman Jerala*



3687

Photo- and halochromism of spirocyan-based main-chain polymers

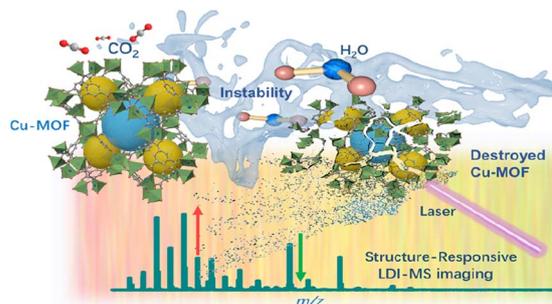
Linh Duy Thai, Jochen A. Kammerer, Hatice Mutlu* and Christopher Barner-Kowollik*



3698

Probing the stability of metal-organic frameworks by structure-responsive mass spectrometry imaging

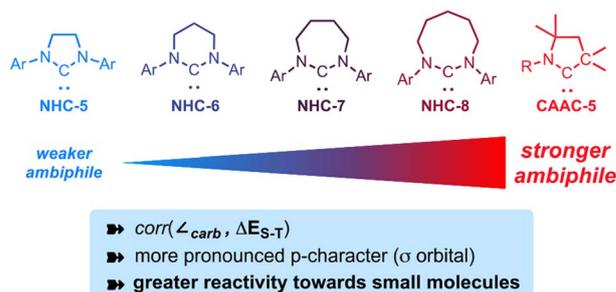
Yue Lin, Ke Min, Wende Ma, Xuezhi Yang, Dawei Lu, Zhenyu Lin, Qian Liu* and Guibin Jiang



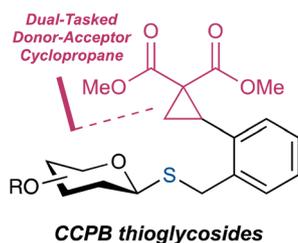
3707

Ambiphilicity of ring-expanded N-heterocyclic carbenes

François Vermersch, Victor T. Wang, Mehdi Abdellaoui, Rodolphe Jazzar* and Guy Bertrand*



3711

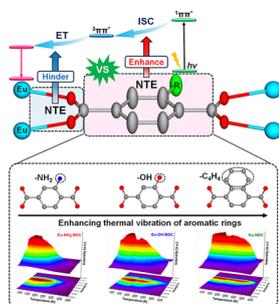


- Stable yet highly reactive
- Orthogonal activation by Sc^{3+}
- Versatile S-glycosylation
- One-pot glycosylation
- Synthetic application

Efficient *O*- and *S*-glycosylation with *ortho*-2,2-dimethoxycarbonylcyclopropylbenzyl thioglycoside donors by catalytic strain-release

Han Ding, Jian Lv, Xiao-Lin Zhang, Yuan Xu, Yu-Han Zhang and Xue-Wei Liu*

3721



Regulating luminescence thermal enhancement in negative thermal expansion metal–organic frameworks

Liang Chen, Yili Cao,* Rui Ma, Hongmei Cao, Xin Chen, Kun Lin, Qiang Li, Jinxia Deng, Chunyu Liu, Yilin Wang, Ling Huang* and Xianran Xing*

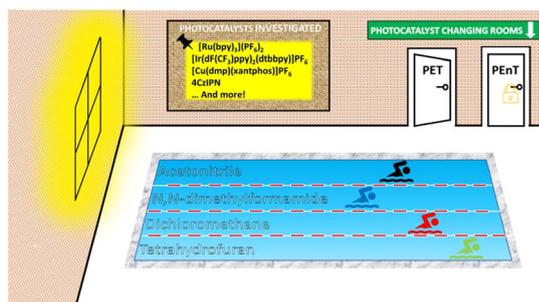
3730



Stabilizing a $\text{Li}_{1.3}\text{Al}_{0.3}\text{Ti}_{1.7}(\text{PO}_4)_3/\text{Li}$ metal anode interface in solid-state batteries with a LiF/Cu-rich multifunctional interlayer

Decheng Ding, Hui Ma, Huachao Tao,* Xuelin Yang* and Li-Zhen Fan*

3741



Lessons learnt in photocatalysis – the influence of solvent polarity and the photostability of the photocatalyst

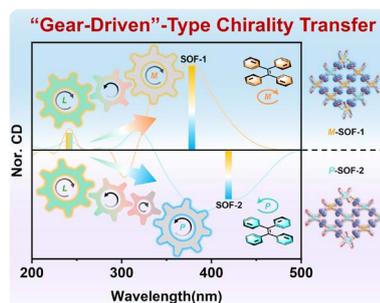
Megan Amy Bryden, Francis Millward, Oliver S. Lee, Lauren Cork, Malte C. Gather, Andreas Steffen and Eli Zysman-Colman*



3758

"Gear-driven"-type chirality transfer of tetraphenylethene-based supramolecular organic frameworks for peptides in water

Chaochao Yan, Qingfang Li, Kaige Wang, Wannan Yang, Jingyu Han, Yawen Li, Yunhong Dong, Dake Chu, Lin Cheng and Liping Cao*



3767

Correction: f-Element heavy pnictogen chemistry

Jingzhen Du, Philip J. Cobb, Junru Ding, David P. Mills* and Stephen T. Liddle*

